

Docket No.: AGIL -27,349
10010107-1
(PATENT)

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A serial communications link comprising:
2 a scrambler device for receiving a source encoded data bit stream, the scrambler device
3 scrambles the data bit stream on a group-wise basis to produce scrambled groups of data in the
4 ~~data bit stream~~ to statistically balance the number of logic low and logic high bits in the groups
5 of data; and
6 an ECC encoder device that receives the scrambled groups of data from the scrambler
7 device and converts said scrambled groups of data into ECC-encoded data.

1 2. (Original) The system as recited in Claim 1, further comprising:
2 a serializer for converting said ECC-encoded data into serialized data; wherein the ECC-
3 encoded data includes frame alignment information; and
4 the system further comprises a receiver for receiving said serialized data and converting
5 the serialized data into data frames based upon the frame alignment information.

1 3. (Previously Presented) The system as recited in Claim 2, wherein the receiver
2 comprises:
3 a frame-recoverer for converting said serialized data into data frames;
4 an ECC decoder for converting said data frames into ECC-decoded data and error
5 indications; and
6 a descrambler for converting said ECC-decoded data into de-scrambled data.

1 4. (Previously Presented) The system as recited in Claim 3, wherein said frame-
2 recoverer uses said error indications in converting said serialized data into data frames.

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1 5. (Currently Amended) The system as recited in Claim 1, wherein said ECC encoder
2 applies an error correction code in converting said scrambled groups of data into said ECC-
3 encoded data.

1 6. (Currently Amended) A serial communications method, comprising the steps of:
2 receiving a data bit stream, from an originating source, at a scrambler device, said data
3 bit stream comprising data bits and other bits;
4 converting, on a group-wise basis, said data bit stream into groups of scrambled data, by
5 said scrambler device, prior to performing another data function on said data bit stream, said
6 groups of scrambled data each comprising groups of data bits having a statistically balanced
7 number of logic low and logic high data bits ~~in each group~~; and
8 converting said scrambled data into ECC-encoded data.

1 7. (Original) The method as recited in Claim 6, further comprising the steps of:
2 generating a serial stream of the ECC-encoded data; and
3 transmitting said serial stream.

1 8. (Original) The method of Claim 7, wherein:
2 the ECC-encoded data includes frame alignment information; and
3 the method further comprises receiving said serialized data and converting said serialized
4 data into data frames based upon said frame alignment information.

1 9. (Original) The method of Claim 7, further comprising:
2 receiving said serialized data;
3 converting said serialized data into data frames;
4 converting said data frames into ECC-decoded data and error indications; and
5 converting said ECC-decoded data into de-scrambled data.

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1 10. (Original) The method of Claim 9, wherein the step of converting the serialized data
2 comprises converting the serialized data into data frames based upon said error indications.

1 11. - 33. (Canceled)

1 34. (Currently Amended) A serial communication link comprising:
2 a scrambler device programed to convert, on a group-wise basis, a received bit stream
3 into groups of K scrambled data bits so as to statistically balance the number of logic low and
4 logic high bits in each group of K scrambled data bits, said received bit stream being without
5 redundant bits and ~~without being~~ substantially only source encoded prior to being scrambled ;
6 and

7 an ECC encoder programmed to convert said scrambled data into ECC-encoded data.

1 35. (Currently Amended) A serial communications link comprising:
2 a scrambler device for receiving a data bit stream having being substantially only data
3 source encoded ~~no previous encoding or byte reordering done to said data bit stream~~, the
4 scrambler device scrambles the data bit stream on a group-wise basis into scrambled groups of
5 data in the data bit stream and converts said data bit stream into scrambled groups of data; and
6 an ECC encoder device that receives the scrambled groups of data from the scrambler
7 device and converts said scrambled groups of data into ECC-encoded data.

1 36. (Currently Amended) A serial communications method, comprising the steps of:
2 receiving a data bit stream at a scrambler device, said data bit stream comprising data bits
3 and other bits resulting from data source encoding that have not been previously encoded or byte
4 reordered;

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- 5 converting, on a group-wise basis, said data bit stream into grouped scrambled data, by
6 said scrambler device, prior to performing another data function on said data bit stream; and
7 converting said scrambled data into ECC-encoded data.

- 1 37. (Currently Amended) A serial communication link comprising:
2 a scrambler device programed to convert, on a group-wise basis, a source encoded data
3 ~~an unneeded received~~ bit stream[[,]] into grouped scrambled data; and
4 an ECC encoder programmed to convert said scrambled data into ECC-encoded data.